AL'TSHULER, V.S.; LAVROV, N.V.; PITIN, R.N.; FARBEROV, I.L.; SHAFIR, G.S.

Underground gasification of coals under high pressure. Trudy IGI 13:75-82 '60. (MIRA 14:5)

(Coal gasification, Underground)

AL'TSHULER, V.S.; SHAFIR, G.S.

Kinetics of the process of natural gas conversion by carbon dioxide under high pressure. Trudy IGI 16:24-35 '61. (MIRA 16:7)
(Carbon dioxide) (Methane)

AL'TSHULER, V.S.; SHAFIR, G.S.

Kinetics of the interaction of carbon with steam at pressures up to 100 atm. Trudy IGI 16:227-236 '61. (MIRA 16:7)
(Carbon) (Steam)

AL'TSHULER, V.S.; SHAFIR, G.S.

Simultaneous conversion of methane and tar vapors under high pressure. Trudy IGI 16:36-45 '61. (MIRA 16:7)
(Methane) (Coal-tar products)

SHEVTSOV, V.P.; SHAFIR, G.S.; KLIRIKOV, G.V.; AL'TSHULER, V.S.

Simultaneous reaction of carbon dioxide and steam with carbon at normal and elevated pressures. Trudy IGI 16:164-170 '61. (MIRA 16:7)

(Carbon) (Steam) (Chemical reaction, Rate of)

AL'TSHULER, V.S.; SHAFIR, G.S.; SHEVTSOV, V.P.

Obtaining processing gas for the synthesis of oxygen-containing compounds. Gaz. prom. 9 no.7:38-43 '64. (MIRA 17:8)

Shafir, I. PA 30/14

USSR/Construction Industry Aug/Sep 1945
Piling, Wooden
Wood - Preservation

"Wooden Poles for Mooring Construction," I. Shafir, Engr, 7 pp

"Morskoy Flot" No 8/9

Wooden poles are still very widely used as pilings for piers, etc. These wooden supports have certain disadvantages, however, the two main ones being limited length and rapid rotting. The author describes certain measures which have been adopted both in Russia and abroad to overcome these shortcomings to a great degree. Discusses the various methods and presents diagrams of some of the projected methods. [redacted]

30/14

USSR/Metals Jan 1946
Piling, Steel
Pipe, Steel

"The Use of Steel Pipes as Piling in Mooring Installations," I. Shafir, Engr, 4½ pp

"Morskoy Flot" No 1

The article treats the correct determination of the supporting power of steel pile pipes and the choice of a proper shape for their lower ends.

30T53

SHAFIR, I., inzhener.

Damages to protective harbor installations. Mor.flot 7 no.1: 29-33 Ja '47. (MLRA 9:5)
(Harbors) (Shore protection)

SHAFIR, I. N., ED.

Proizvodstvo morskikh portovykh gidrotekhnicheskikh rabot (Execution of seaport hydrotechnical operations, by) L. N. Shafir, D. A. Shepelev (Et al) Moskva, Gos. Izd-vo Lit. po stroitel'stvu I Arkhitekture, 1951.
515 p. diagrs., tables.
Includes bibliography
Cataloged from abstract

SO: N/5
756.55
.S5

SHAFIR, I.N.

GINSBARG, R.I., kandidat tekhnicheskikh nauk; SHAFIR, I.N., kandidat tekhnicheskikh nauk; PETROV, P.F., nauchnyy redaktor; SEMENOVA, M.M., redaktor izdatel'stva; STUDENETSKAYA, V.A., tekhnicheskiy redaktor.

[Prevention of damage to seaport dock stuctures] Preduprezhdenie avarii morskikh prichal'nykh sooruzhenii. [n.p.] Morskoi transport, 1953. 267 p. (MLRA 7:7)
(Harbors) (Embankments)

15 (8)

AUTHOR: Shafir, K. F., Engineer SOV/119-59-8-9/15

TITLE: On the Problem of the Additional Treatment of Polyamide Parts of the Nylon Type

PERIODICAL: Priborostroyeniye, 1959, Nr 8, pp 25-26 (USSR)

ABSTRACT: In the introduction the use of polyamides as parts of instruments is explained on account of their good physico-mechanical properties, and it is said that they belong to the class of amorphous crystalline polymers. The latter fact shows that they have a number of properties which are found also in crystals. Figure 1 shows as an example a schematical picture of the division of a micromolecule into crystalline and amorphous domains. In the present paper the microstructure of gears was investigated by means of the microscope MBI-1 at 400-fold enlargement. The aftertreatment was carried out after the usual production of the gears in castor oil at temperatures of 140 to 240°C. The aftertreatment lasted from several minutes to 8 hours, after which cooling down to -40°C followed. Six micropictures (Figs 2-7) are given of the experimental results, which demonstrate the effect of the aftertreatment. It was found that in the case of an aftertreatment at temperatures slightly below melting point

Card 1/2

a fine-grained structure is produced for the duration of 3-15 minutes, and Brinell hardness is increased to 1.5 its amount. Finally, it is found that the quality of the polyamides may be considerably improved by means of such an aftertreatment. There are 7 figures.

S/653/61/000/000/008/051
I042/I242

AUTHOR: Shafir, K.F.

TITLE: The application of cast polyamide components in the construction of electrical equipment

SOURCE: Plastmassy v mashinostroyenii i priborostroyenii. Pervaya resp. nauch.-tekh. konfer. po vopr. prim. plastmass v mashinostr. i priborostr., Kiev, 1959. Kiev, Gostekhizdat, 1961, 74-84

TEXT: Among new plastics with outstanding wear resistance are the Soviet polyamide resins ПА-68 (PA-68), АК-7, ПА-6, (PA-6), no.54, no.548, etc. These resins have a low coefficient of friction, good adhesion to metal surfaces, resistance to mechanical shock, mold, and bacteria. The Vsesoyuznyy nauchno-issledovatelskiy institut elektroizmeritelnykh priborov (All-Union Scientific Research

Card 1/2

S/653/61/000/000/008/051
I042/I242

The application of cast plyamide...

Institute for Electrical Meters) is working on the replacement of metal components by plastics. The manufacture of plastic components by pressure molding is discussed in detail. Some of the factors considered are the air and moisture content, heat distribution, and coarse temperature control. Polyamide parts, subjected to wear for 2000 hrs at different temperatures and relative humidities, showed no damage, whereas their metal counterparts lost up to 0.2 mm of surface layer. Among other advantages of polyamide components are shorter production time, lower cost, and better quality. The manufacture of polyamide gears for electrical equipment is discussed in detail. The VNIIEP is studying the replacement of metal and textolite gears by their plastic counterparts. Polyamide bearings under small loads require no lubrication. The replacement of steel roller-bearings by self-lubricating polyamide bearings is under study. There are 3 figures and 2 tables.

Card 2/2

SHAFIR, Mark Arkad'yevich; ZAVELEV, L.A., red.; ATROSHCHENKO, L.Ye., tekhn.red.

[Democratic dictatorship of the people in China is one of the forms of the dictatorship of the proletariat] Demokraticheskaia diktatura naroda v Kitae - odna iz form diktatury proletariata. Moskva, Izd-vo "Znanie," 1959. 47 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.2. Filosofiia, no.5) (MIRA 12:6)

(China--Politics and government)

[redacted], M. M.

"Causes of Myocardial Infarctus Complicated by Disruption of the Diaphragm," Klin. Med., 27, No. 3, 1949. Abr., Leningrad Hosp. im. Konyashina, -c1949-.

NIKOL'SKAYA, A.A., prof.; SHAFIR, M.M., assistent

Atomic bleeding. Uch. zap. Stavr. gos. med. inst. 12: 293-294 '63. (MIRA 17:9)

1. Kafedra akusherstva i ginekologii (zav. prof. A.A. Nikol'skaya) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

L 44690-66 EWT(d)/EWT(m)/EEC(k)-2/T/FSS-2 DJ/WR

ACC NR: AP6005365 SOURCE CODE: UR/0413/66/000/001/0111/0111

AUTHORS: Krichever, S. S.; Novikov, N. M.; Shafir, S. N.

34 B

ORG: none

TITLE: Hydraulic tracking device / Class 42, No. 177695

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 111

TOPIC TAGS: tracking equipment, hydraulic equipment

ABSTRACT: This Author Certificate presents a hydraulic tracking device made in the form of a casing with openings for allowing the working liquid to pass in and out. The casing contains an internal plunger with ports for passing the working liquid. To regulate the sensitivity and stability of the hydraulic tracking system by changing the amplification factor, the working head of the plunger is made in the form of two rectangular symmetrical ducts interacting with the corresponding rectangular ducts in the sleeve (see Fig. 1). The perimeter of the working aperture is adjusted by turning the plunger in respect to the sleeve.

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L 44690-66

ACC NR: AP6005365

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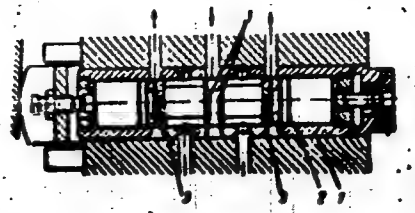
Fig. 1. 1 - casing of the instrument; 2 - plunger; 3 - duct



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 11Mar63

17/

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Card 2/2

OSOKOV, Z.; MORENKO, G.; SHAFIR, V.; DROZDOV, S.S., red.;
STEMLYANKO, T.V., tekhn. red.

[Gas as fuel for engines] Gaz - motornoe toplivo. Stavropol',
Stavropol'skoe knizhnoe izd-vo, 1962. 40 p. (MIRA 15:11)
(Gas as fuel)

8 (6) SOV/91-59-11-5/27

AUTHOR: Shafir, Ya.K., Deputy Boiler House Chief

TITLE: Adjusting the Load of Gas-Fired Boilers

PERIODICAL: Energetik, 1959, Nr 11, p 13 (USSR)

ABSTRACT: The author reports an error found on page 17 of a publication of the "Kiyevgaz" trust, titled "The Operation of Heating Boilers". This passage deals with the air control of gas-fired boilers. "For increasing the load, the gas supply must be increased first and then the air supply. When reducing the load, the air supply must be decreased first and then the gas supply." The author says that explosions are possible, if the load adjustments are performed in the indicated sequence. For increasing the load, the air supply must be increased first and then the gas supply. For reducing the load, the gas supply must be lowered first and then the air supply. The "Kiyevgaz" trust should correct this error immediately.

Card 1/1

SHAFIRA, L.E., dotsent

Rupture of the tubercle of the tibia and rupture of the ligamentum patella due to contraction of the quadriceps muscle of the hip. Khirurgiia no.4:82 Ap '54. (MLRA 7:6)

1. Iz kliniki obshchey khirurgii Leningradskogo pediatricheskogo instituta.

(TIBIA, wounds and injuries,
*rupt. of tubercle & rup. of ligamentum patella caused by contraction of quadriceps femoris musc.)
(KNEE, wounds and injuries,
*rupt. of ligamentum patella caused by contraction of quadriceps femoris musc.)
(THIGH, muscles,
*quadriceps femoris, contraction causing rupt. of tubercle of tibia and ligamentum patella)

SHAFIRA, L.E., dotsent

Indications for surgical treatment of acute cholecystitis and long-term results of conservative therapy. Terap. arkh. 26 no.3: 42-46 My-Je '54. (MLRA 7:9)

1. Iz kliniki obshchey khirurgii (zav. prof. V.V.Lavrov) Leningradskogo pediatricheskogo meditsinskogo instituta.
(CHOLECYSTITIS, therapy,
*indic. for surg. & results of med. ther.)

L 46045-66

ACC NR: AT6034089 SOURCE CODE: HU/2502/65/044/003/0293/0299

AUTHOR: Botar, Laszlo; Safarik, Imre--Shafarik, I.

ORG: Central Research Institute of Chemistry, Budapest (Magyar Tudomanyos Akademia, Kozponti Kemiai Kutatointezet)

TITLE: Some thermodynamic considerations of the hydrated electron and other intermediates in the radiolysis of aqueous solutions

SOURCE: Acta chimica academiae scientiarum Hungaricae, v. 44, no. 3, 1965, 293-299

TOPIC TAGS: radiolysis, dissociation constant, redox reaction

ABSTRACT: Acid-base dissociation constants for H, H_2, OH, and HO_2 were calculated on the basis of the appropriate oxidation-reduction half reactions using standard thermodynamic methods. The formal half reaction: e^-_{aq} aq + e- was introduced for the calculation of K_H. The importance of these equilibrium processes in the radiolysis of aqueous solutions is discussed. Orig. art. has: 1 figure, 8 formulas and 1 table. [Orig. art. in Eng.] [JPRS: 33,540]

SUB CODE: 07 / SUBM DATE: 16Oct64 / OTH REF: 021

Card 1/1

ACC NR: AT6036600 SOURCE CODE: UR/0000/66/000/000/0236/0237

AUTHOR: Ruzin, R. A.; Nevskaya, G. F.; Popov, V. I.; Sychkov, M. A.; Shafirkin, A.V.; Yurgov, V. V.; Abramova, G. M.; Ginzburg, Ye. V.; Kalandarova, M. P.

ORG: none

TITLE: Experimental investigation of the effectiveness of local radioprotective shielding [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 236-237

TOPIC TAGS: radiation shielding, solar flare, cosmic radiation biologic effect, radiation protection, radiation dosimetry

ABSTRACT:

Many difficulties are encountered in selection of a radiation method suitable for study of the effect of local shielding. The radiation field within the limits of the irradiated object must not vary more than ±10%. The dose differential among absorbed doses must not exceed ±10%. Local shielding must produce at least a tenfold weakening of the dose. Furthermore, dose power must be sufficiently high to model solar flares, con-

Card 1/3

sidering the limited stay of the irradiated animal in a fixed position. Experimental calculations of the passage of protons through tissue have shown that high-energy protons scatter very little. For example, the average angle of multiple scattering for 660-Mev protons passing through a lead filter with a thickness of 100 g/cm^2 is approximately 2°.

Selection of proton energies was made using data on the distribution of absorbed doses created by monoenergetic protons with energies from 100—600 Mev in a water phantom. Since these distributions have a dose differential greater than 10% with shielding thicknesses up to 20 g/cm^2, it was decided to irradiate the animals from two sides. Maximum equalization of distribution with this method was obtained with 250-Mev protons. The local shield used was made of paraffin. A radiation field was produced at the irradiated object with a difference of ±20%. To obtain more uniform radiation, animals were placed asymmetrically to the axis of the proton beam and each side received half of the dose.

This method was perfected with a heterogeneous bone-paraffin phantom. Measurements made with this phantom showed a radiation field varying only 11% on the animals' surface. Furthermore, the differential of absorbed doses did not exceed 5%. When individual body parts were shielded, the

ACC NR: AT60 36600

dose decreased 10-15 times behind the shield. Thus the method described satisfies all the requirements listed above, and can be used in radiobiological study of the effectiveness of local shielding. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06, 18 / SUBM DATE: 00May66

Card 3/3

SHAFIRKIN, B., nauchnyy sotrudnik

Improve the planning of transportation in mixed communications. Rech. transp. 22 no.5:11-13 My '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.
(Transportation)

SHAFIRKIN, B. . and AL'TERMAN, S. L .

Okruga zheleznykh dorog v bor'be za ratsionalizatsuur perevozok. /The efforts of railroad districts in the rationalization of transport/. Rezevy TSentral'-nogo okruga. (Zhel-dor. transport, 1948, no.3, p. 29-33).

DLC: HE7.Z5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassfied.

BENESHEVICH, I.I., kandidat tekhnicheskikh nauk; BOGIN, N.M., kandidat tekhnicheskikh nauk; BYKOV, Ye.I., inzhener; VLASOV, I.I., kandidat tekhnicheskikh nauk; GRITSEVSKIY, M.Ye., inzhener; GRUBER, L.O., inzhener GURVICH, V.G., inzhener; DAVYDOV, V.N., inzhener; YERSHOV, I.M., kandidat tekhnicheskikh nauk; ZASORIN, S.N., kandidat tekhnicheskikh nauk; IVANOV, I.I., kandidat tekhnicheskikh nauk; KRAUKLIS, A.A., inzhener; KROTOV, L.B., inzhener; LAPIN, V.B., inzhener; LASTOVSKIY, V.P., dotsent; LATUNIN, N.I., inzhener; MARKVARDT, K.G., professor, doktor tekhnicheskikh nauk; MAKHAYLOV, M.I., professor, doktor tekhnicheskikh nauk; NIKANOROV, V.A., inzhener; OSKOLKOV, K.N., inzhener; OKHOSHIN, L.I., inzhener; PARFENOV, K.A., dotsent, kandidat tekhnicheskikh nauk; PERTSOVSKIY, L.M., inzhener; POPOV, I.P., inzhener; PORSHNEV, B.G., inzhener; RATNER, M.P., inzhener; ROSSIYEVSKIY, G.I., dotsent, kandidat tekhnicheskikh nauk; RYKOV, I.I., kandidat tekhnicheskikh nauk; RYSHKOVSKIY, I.Ya., dotsent, kandidat tekhnicheskikh nauk; RYABKOV, A.Ya., professor [deceased]; TAGER, S.A., kandidat tekhnicheskikh nauk; KHAZEN, M.M., professor, doktor tekhnicheskikh nauk; CHERNYSHEV, M.A., doktor tekhnicheskikh nauk; EBIN, L.Ye., professor, doktor tekhnicheskikh nauk; YURENEV, B.N., dotsent; AKSENOV, I.Ya., dotsent, kandidat tekhnicheskikh nauk; ARKHANGEL'SKIY, A.S., inzhener; BARTENEV, P.V., professor, doktor tekhnicheskikh nauk; BERNGARD, K.A., kandidat tekhnicheskikh nauk; BOROVOY, N.Ye., dotsent, kandidat tekhnicheskikh nauk; BOGDANOV, I.A., inzhener; BOGDANOV, N.K., kandidat tekhnicheskikh nauk; VINNICHENKO, N.G., dotsent, kandidat ekonomicheskikh nauk;

(Continued on next card)

BENESHEVICH, I.I.----(continued) Card 2.

VASIL'YEV, V.F.; GONCHAROV, N.G., inzhener; DERIBAS, A.T., inzhener; DOBROSEL'SKIY, K.M., dotsent, kandidat tekhnicheskikh nauk; DLUGACH, B.A., kandidat tekhnicheskikh nauk; YEFIMOV, G.P., kandidat tekhnicheskikh nauk; ZEMBLINOV, S.V., professor, doktor tekhnicheskikh nauk; ZABELLO, M.L., kandidat tekhnicheskikh nauk; IL'IN, K.P., kandidat tekhnicheskikh nauk; KARETNIKOV, A.D., kandidat tekhnicheskikh nauk; KAPLUN, F.Sh., inzhener; KANSHIN, M.D.; KOCHNEV, F.P., professor, doktor tekhnicheskikh nauk; KOGAN, L.A., kandidat tekhnicheskikh nauk; KUCHURIN, S.F., inzhener; LEVASHOV, A.D., inzhener; MAKSIMOVICH, B.M., dotsent, kandidat tekhnicheskikh nauk; MARTYNOV, M.S., inzhener; MEDEL', O.M., inzhener; NIKITIN, V.D., professor, kandidat tekhnicheskikh nauk; PADNYA, V.A., inzhener; PANTELEYEV, P.I., kandidat tekhnicheskikh nauk; PETROV, A.P., professor, doktor tekhnicheskikh nauk; POVOROZHENKO, V.V., professor, doktor tekhnicheskikh nauk; PISKAREV, I.I., dotsent, kandidat tekhnicheskikh nauk; SERGEYEV, Ye.S., kandidat tekhnicheskikh nauk; SIMONOV, K.S., kandidat tekhnicheskikh nauk; SIMANOVSKIY, M.A., inzhener; SUYAZOV, I.G., inzhener; TAIDAYEV, F.Ya., inzhener; TIKHONOV, K.K., kandidat tekhnicheskikh nauk; USHAKOV, N.Ya., inzhenr; USPENSKIY, V.K., inzhener; FEL'DMAN, E.D., kandidat tekhnicheskikh nauk; FERAPONTOV, G.V., inzhener; KHOKHLOV, L.P., inzhenr; CHERNOMORDIK, G.I., professor, doktor tekhnicheskikh nauk; SHAMAYEV, M.F., inzhener; SHAFIRKIN, B.I., inzhener; YAKUSHIN, S.I., inzhener; GRANOVSKIY, P.G., redaktor; TISHCHENKO, A.I., redaktor; ISAYEV, I.P., dotsent, kandidat tekhnicheskikh nauk, redaktor; KLIMOV, V.F., dotsent kandidat tekhnicheskikh

(Continued on next card)

BENESHEVICH, I.I.--- (continued) Card 3.
nauk, redaktor; MARKOV, M.V., inzhener, redaktor; KALININ, V.K., inzhener, redaktor; STEPANOV, V.N., professor, redaktor; SIDOROV, N.I., inzhener, redaktor; GERONIMUS, B.Ye., kandidat tekhnicheskikh nauk, redaktor; ROBEL', R.I., otvetstvennyy redaktor

[Technical reference manual for railroad engineers] Tekhnicheskii spravochnik zheleznodorozhnika. Moskva, Gos. transp.zhel-dor. izd-vo. Vol.10. [Electric power supply for railroads] Energosnabzhenie zheleznykh dorog. Otv.red. toma K.G.Markvardt. 1956. 1080 p. Vol.13. [Operation of railroads] Ekspluatatsiia zheleznykh dorog. Otv. red. toma R.I.Robel'. 1956. 739 p. (MLRA 10:2)

1. Chlen-korrespondent Akademii nauk SSSR (for Petrov)
(Electric railroads) (Railroads--Management)

MARKOV, Aleksandr Vladimirovich; SHAFIRKIN, B.I., redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor.

[Organizing the transportation of grain] Organizatsiia perevozok zernovykh gruzov. Moskva, Gos.transp.zhel-dor.izd-vo, 1957. 242 p. (MIRA 10:11)

(Grain--Transportation)

POTAPOV, V.P., redaktor; SHAFIRKIN, B.I., redaktor; MANYUKOV, G.S., inzhener, redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor

[Problems in the efficient transportation of main freight] Voprosy ratsionalizatsii perevozok vazhneishikh gruzov; sbornik statei. Moskva, Gos. transp. zhel-dor. izd-vo, 1957. 270 p. (Railroads--Freight) (MLRA 10:4)

POTAPOV, V.P.; SHAFIRKIN, B.I.

Planning freight haulage in relation to the creation of economic districts. Zhel.dor.transp. 39 no.8:8-13 Ag '57. (MLRA 10:9)

1. Nachal'nik Glavnogo upravleniya Ministerstva putey soobshcheniya (for Potapov). 2. Zamestitel' nachal'nika Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya (for Shafirkin).
(Railroads--Freight) (Russia--Economic policy)

POTAPOV, V.P.; SHAFIRKIN, B.I.

Hauling and the development of freight handling in the past 40 years. Zhel dor. transp. 39 no.12:15-20 D '57. (MIRA 11:1)

1. Nachal'nik Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya (for Potapov). 2. Zamestitel' nachal'nika Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya (for Shafirkin).

(Railroads--Freight)

SHAFIRKIN, B.I.

Urgent problems in organizing the transportation of farm produce.
Zhel. dor. transp. 40 no.6:51-57 Je '58. (MIRA 11:6)

1.Zamestitel' nachal'nika Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya.
(Railroads--Freight) (Farm produce--Transportation)

SHAFIRKIN, Boris Isaakovich, inzh.; BOBROVA, Ye.N., tekhn.red.

[Freight transportation manual] Spravochnik po perevozke gruzov. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1960. 543 p. (MIRA 14:3)
(Railroads--Freight)

POVOROZHENKO, V.V., prof., doktor tekhn.nauk; SHAFIRKIN, B.I., inzh.

Rhythm is an important condition for improvement in transportation operations. Zhel.dor.transp. 43 no.4:15-20 Ap '61. (MIRA 14:3)

1. Zamestitel' nachal'nika Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya (for Shafirkin).
(Railroads—Freight)

SHAFIRKIN, Boris Isaakovich; NAUMOV, Petr Yevtikhiyevich; MALAKYAN, S.M., inzh., retsenzent; MULYUKIN, F.P., inzh., retsenzent; BOROVOY, N.Ye., kand. tekhn.nauk, red.; KHITROVA, N.A., tekhn.red.

[Planning of freight transportation] Planirovanie gruzovykh perevozok. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 320 p. (MIRA 15:2)
(Railroads--Freight)

NIVINSKIY, Yevgeniy Borisovich; SHAFIRKIN, Boris Isaakovich; BESHENKO, I.M., inzh., retsenzent; POTAPOV, V.P., inzh., retsenzent; FERAPONTOV, G.V., inzh., red.; VOROTNIKOVA, L.F., tekhn. red.

[Freight transportation for agriculture] Perevozki gruzov dlia sel'skogo khoziaistva. Moskva, Transzheldorizdat, 1962. 86 p. (MIRA 15:6)

(Freight and freightage)

SHEYMAN, Konstantin Leont'yevich; SHAFIRKIN, B.I., retsenzent; PESKOVA, L.N., red.; VASIL'YEVA, N.N., tekhn. red.

[Possibilities of a more efficient transportation of freight] Perspektivy ratsionalizatsii perevozok gruzov. Moskva, Transzheldorizdat, 1962. 145 p. (MIRA 16:1)
(Freight and freightage)

POVOROZHENKO, Vladimir Vasil'yevich; SITNIK, Mikhail Danilovich; FURMAN, Yevgeniy Sergeyevich; SHAFIRKIN, B.I., inzh., retsenzent; FERAPONTOV, G.V., inzh., red.; VOROB'YEVA, L.V., tekhn. red.

[Common carrier and freight forwarding services on railroads] Transportno-ekspeditsionnoe obsluzhivanie na zheleznykh dorogakh. Moskva, Transzheldorizdat, 1962. 146 p. (MIRA 16:1)

(Freight and freightage)

SHAFIRKIN, B.I., inzh.

A better organization of freight transportation and reduction of the operational costs for freight transportation in the national economy. Zhel.dor.transp. 44 no.7:22-27 Jl '62. (MIRA 15:8)
(Railroads--Freight)

KRICH, Boris Vladimirovich; SHAFIRKIN, B.I., retsenzent; KARPOVA, N.L., red.; DROZDOVA, N.D., tekhn. red.

[Ways for a more efficient organization of freight transportation] Puti ratsionalizatsii perevozok. Moskva, Transzheldorizdat, 1963. 74 p. (MIRA 16:6)
(Freight and freightage)

SHAFIRKIN, B.I.

New tasks in the planning of freight transportation. Zhel. dor. transp. 45 no.4:20-25 Ap '63. (MIRA 16:4)

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.
(Railroads—Freight)

IVANOV, K.Ye., kand. tekhn. nauk; SHARBATOV, I.T., inzh.; SHUL'GA, V.Ya., kand. tekhn. nauk, dots.; NAUMOV, A.N., retsenzent; SHAFIRKIN, B.I., retsenzent; KOLTUNOVA, M.P., red.; BOBROVA, Ye.N., tekhn. red.

[Efficiency of the new technology and mechanization in track operation, maintenance and repair] Effektivnost' novoi tekhniki i mekhanizatsii v putevom khozialstve. Moskva, Transzheldorizdat, 1963. 311 p. (MIRA 17:2)

SHAFIRKIN, B.I.

Important problems of the improvement of communication and economic relations. Zhel. dor. transp. 46 no.8:93-96 Ag '64.
(MIRA 17:11)

1. Rukovoditel' otdeleniya ekonomiki TSentral'nogo nauchno-issledovatel'skogo instituta Ministerstva putey soobshcheniya.

SHAFIRKIN, B.I.; SITNIK, M.P.

Unified system for the planning of transportation and coordination of transportation operations. Zhel.dor.transp. 46 no.25-30 S '64. (MIRA 17:10)

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Shafirkin). 2. Zaveduyushchiy sektorom otdela eksploatatsii transporta Instituta kompleksnykh transportnykh problem pri Gosplane SSSR (for Sitnik).

SHAFIRKIN, B.I.; SITNIK, M.D.

Unified system for the planning of transportation and coordination of transportation operations. Zhel. dor. transp. 46 no.9:25-30 S '64.

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Shafirkin). 2. Zaveduyushchiy sektorom otdela ekspluatatsii transporta Instituta kompleksnykh transportnykh problem pri Gosplane SSSR (for Sitnik).

SHAFIRKIN, B.I.

Role of the transportation and economics balance in the planning of transportation. Zhel.dor.transp. 47 no.10:66-70 O '65. (MIRA 18:10)

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.

SHAFIRO, I.B.; GOGOKHIYA, Sh.D.(Tbilisi)

Long-lived people in Abkhazia; preliminary report. Sov.med.19
no.8:51-56 Ag '55. (MLRA 8:10)
(AGED,
in Russia, long living people in Abkhaziia)

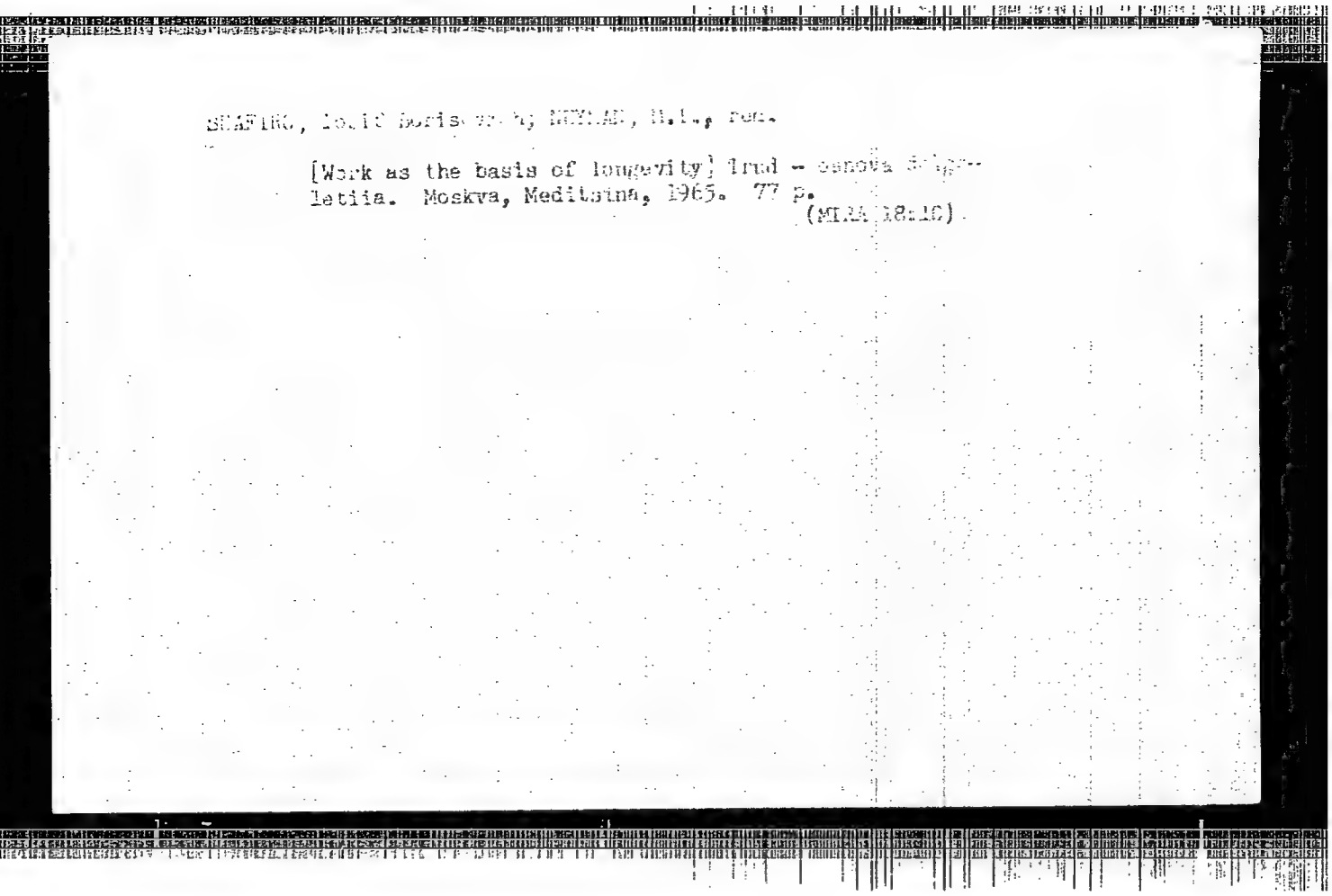
SHAFIRO, Iosif Borisovich; PITSKHELAURI, Grigoriy Zakhar'yevich; GAGUA, Otari Evmenevich

[Long-lived people of Tbilisi (in Georgian)] Dolgoletnie liudi Tbilisi. Tbilisi, Gosizdat Gruzinskoi SSR, 1956. 142 p.
(MLRA 10:5)

(Tiflis--Longevity)

SHAFIRO, I.B.; ULTURGASHEV, S.P.; MUZYAYEV, V.F.; ANZHIGANOV, V.S.; KUZ'KIN, M.G., red.; SAMRINA, A.A., tekhn.red.

[Longevity; long-lived residents of Khakassia] Dolgoletie; dolgozhiteli Khakassii. Abakan, Khakasskoe knizhnoe izd-vo, 1960. 70 p. (MIRA 14:2)
(Khakass Autonomous Province--Longevity)



BRAFIRO, Iosif Borisovich; MIKULAK, M.I., red.

[Work as the basis of longevity] Trud - osnova dolgo-letiia. Moskva, Meditsina, 1965. 77 p.
(MIRA 18:10)

SHAFIRO, Ya.Sh.

New data on the tectonics of the Tersa-Buzuluk-Medveditsa interfluve. Izv.AN SSSR. Ser.geol. 20 no.3:114-118 My-Je '55. (MLRA 8:9)
(Stalingrad Province--Geology, Structural)

AUTHOR: Shafiro, Ya. Sh. SOV-11-58-10-4/12

TITLE: New Data on the Tectonics of Severnyye Yergeni (Novyye dannyye po tektonike Severnykh Yergeney)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya, 1958, Nr 10, pp 46 - 55 (USSR)

ABSTRACT: The study of the complicated structure of the "Severnyye Yergeni" showed that this region has been subjected to many tectonic transformations since the Paleozoic Era, when the formation of the folded structure of the south-western part of the region and the sagging of its larger part occurred. The sagging became more intensive in the Permian-Triassic period and the depression was filled in the Lower Triassic period with thick layers of multi-colored rocks. Since the end of this period the whole region has been subjected to alternate sagging and elevating processes. In the Oligocean epoch, the whole region was covered with a sea, which retreated in the Miocene epoch when the region finally became dry land. Its eastern part sagged again in the Sarmatian stage, but emerged at the end of the Miocene epoch. The author describes the various structural changes and

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New Data on the Tectonics of Severnyye Yergeni SOV-11-58-10-4/12

different sedimentary formations resulting from these tectonic transformations. He mentions the following geologists whose work he has summarized in this article: A.P. Karpinskiy, A.D. Arkhangel'skiy, N.S. Shatskiy, Ye. V. Milanovskiy and A.G. Brazhnikov. There are 3 maps, 1 diagram and 8 Soviet references.

SUBMITTED: June 10, 1957

ASSOCIATION: Tsentral'naya nauchno-issledovatel'skaya laboratoriya tresta Stalingradnefte-razvedka, g. Stalingrad (The Stalingrad Central Scientifico-Research Laboratory of the Stalingradnefterazvedka Trust)

1. Geology--USSR 2. Geophysics--USSR 3. Geological time Determination

Card 2/2

SHAFIRO, Ya.Sh.

Old faults in Archeda-Don dislocations. Geol. nefti i gaza 4 no. 12:29-33 D '60. (MIRA 13:12)

1. TSentral'naya nauchno-issledovatel'skaya laboratoriya upravleniya neftyanoy i gazovoy promyshlennosti Stalingradskogo sovnarkhoza.

(Don Valley--Faults (Geology))

SHAFIRO, Ya.Sh.; KHLYSTOVA, V.N.

Formation of local uplifts in the zone of Don-Medveditsa dislocations. Biul.MOIP.Otd.geol. 37 no.5:111-131 S-O '62. (MIRA 15:12)

(Don Valley--Geology, Structural)
(Medveditsa (Volgograd Province)--Geology, Structural)

SHAFIROV, A.M. (Kiyev)

Redesigning the piping attachment of the Class 460 sewing machine.
Shvein.prom. no.2:38-39 Mr-Ap '61. (MIRA 14:4)
(Sewing machines)

SHAFIROV, E.F.; TAGIYEV, E.F.

Mountain-forest Chestnut soils of the oak and hornbeam forests in the Shusha Forest Tract. Izv. AN AZe. b. Ser. biol. i med. nauk no. 2:73-78 '62. (MIRA 17:6)

SHAFIRO, Ya.Sh.

Characteristics of the inheritance of the Devonian paleostructural pattern in the Mesozoic and Cenozoic structure of the Volga Valley portion of Volgograd Province. Biul. MOIP. Otd. geol. 39 no.4: 39-51 Jl-Ag '64. (MIRA 17:10)

L 29116-66

ACC NR: AP6019402 SOURCE CODE: UR/0240/65/000/011/0018/0023

AUTHOR: Shafirov, Yu. B.

ORG: Institute of General and Communal Hygiene im. A. N. Sysin, AMN SSSR(Institut obshchey i kommunal'noy gigiyeny AMN SSSR)

TITLE: Experimental substantiation of the maximum permissible concentration of strontium in water

SOURCE: Gigiyena i sanitariya, no. 11, 1965, 18-23

TOPIC TAGS: mouse, rat, rabbit, strontium, water supply system, toxicology, fresh water

ABSTRACT: The threshold concentration of strontium chloride and nitrate affecting the taste of tap water was 12 mg/liter, as shown by the results of chronic experiments on mice, rats, guinea pigs, and rabbits. A dose of 0.13 mg/kg (approximately 2.8 mg/liter) had no effect detectable by any of the tests used.

A comparison of the experimental data showed that the above-mentioned threshold concentration had no effect on the general sanitary regime of the body of water from which the samples were drawn. The author concludes by recommending 2.5 mg/liter as the maximum permissible concentration of strontium in the water of reservoirs. Orig. art. has: 2 figures and 2 tables. [JPRS]

SUB CODE: 06, 07, 13 / SUBM DATE: 01Apr65 / ORIG REF: 011 / OTH REF: 002

UDC: 613.32:546.42.02.90

Card 1/1

MEKLER, A.G., kand.tekhn.nauk; SHAFIROV, Z.Ye.; ASKINAZI, R.B., inzh.

Automatic drive of suspended pusher converyers. Vest.mash.
42 no.1:34-39 Ja '62. (MIRA 15:1)
(Conveying machinery)

SMIRNOV, Alekseĭ Vsevolodovich; SMIRNOVA, Mara Valerianovna; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Gifts from the green ocean] Dary zelenogo okeana. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 109 p. (MIRA 14:1)
(Siberia--Forests and forestry)

BROYDO, Solomon Moiseyevich; SHAFIROVA, A.S., red.; KOVALEV, S.R., tekhn.red.

[A study of the city on the Vitim River] Gorod na Vitime; ocherk. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 114 p. (MIRA 14:1)

(Bodaybo)

DOBYCHIN, B.D., prof., red.; KAZANTSEV, Apollinariy Innokent'yevich, prof., doktor med.nauk, red.; SHAFIROVA, A.S., red.; KARAS', V.D., tekhn.red.

[Collected papers on the structure of the peripheral nervous system] Sbornik nauchnykh rabot po izucheniiu struktury perifericheskoi nervnoi sistemy. Pod red. B.D.Bobychina i A.I.Kazantseva. Irkutsk, 1959. 189 p. (MIRA 14:2)

1. Vsesoyuznoye nauchnoye obshchestvo anatomov, gistologov i embriologov. 2. Zaveduyushchiy kafedroy normal'noy anatomii Irkutskogo meditsinskogo instituta (for Kazantsev).
(NERVES, PERIPHERAL)

KOZHOV, Mikhail Mikhaylovich, prof.; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Lake Baikal and life in it] Baikal i ego zhizn'. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 48 p. (MIRA 14:1)
(Baikal, Lake--Limnology)

YEGOROV, Aleksandr Georgiyevich; SHAPIROVA, A.S., red.; KARAS', V.D., tekhn.red.

[Develop carp culture in Irkutsk Province and the Buryat A.S.S.R.] Razvivat' karpovodstvo v Irkutskoi oblasti i BASSR. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 132 p. (MIRA 14:2)

(Irkutsk Province--Carp) (Buryat-Mongolia--Carp)

POPOV, Pavel Fedorovich; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Natural conditions and resources of Irkutsk Province] Prirodnye usloviia i bogatstva Irkutskoi oblasti. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 37 p. (MIRA 14:2)

(Irkutsk Province--Physical geography)

VOROPINOV, Vladimir Semenovich; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Siberian gypsum] Sibirskii gips. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 62 p. (MIRA 14:4)
(Siberia--Gypsum)

GUSEV, Oleg Kirillovich, zoolog; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn. red.

[From the Barguzinskiy Reservation to the Ushken'i Islands; traveler's notes] Ot Barguzinskogo zapovednika do Ushkan'ikh ostrovov; zapiski puteshestvennika. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 126 p. (MIRA 14:6)

1. Vostochno-sibirskiy filial AN SSSR (for Gusev)
(Malyye Ushkan'i Islands—Discovery and exploration)

SHAFIROVA, A.S., red.

[Restless people; sketches] Bespokoinye liudi; ocherki. Irkutsk, Irkutskoe knizhnoe izd-vo, 1961. 61 p. (MIRA 18:3)

VLADIMIROV, Boris Mikhaylovich; BELOV, I.V., otv.red.; PERLOVICH, B.F., red.; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Petrography of Padun and Margudol' trap intrusives] Petrografiia Padunskogo i Margudol'skogo trappovykh intruzivov. Irkutsk, Irkutskoe knizhnoe izd-vo, 1962. 150 p. (Akademiia nauk SSSR. Sibirskoe otdelenie. Vostochno-Sibirskii geologicheskii institut. Trudy, no.10) (MIRA 16:3)

(Irkutsk Province--Rocks, Igneous)

SHAFIRIAN, K. P.

20821. Shafiryan, K. P. Vliyaniye zamorazhivaniya moloka na ego bakter itsi dnyye svoystva. Sbornik doklarov Pervoy vsesoyuz. Konf-tsii po moloch. delu. M., 1949, s. 148-54.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

ACC NR: AP6036898 (A) SOURCE CODE: UR/0226/66/000/011/0043/0045

AUTHOR: Antsiferov, V. N. (Perm'); Shafit, I. A. (Perm')

ORG: none

TITLE: Investigation of the technological characteristics of W-Ni-Cu alloys dispersion strengthened with zirconium dioxide

SOURCE: Poroshkovaya metallurgiya, no. 11, 1966, 43-45

TOPIC TAGS: sintered alloy, tungsten, nickel alloy, copper containing alloy, zirconium dioxide containing alloy, alloy sintering, alloy density

ABSTRACT: The effect of the addition of 0.01—0.4% Ni, 0.1—40% ZrO_2 and 0—15% Cu on the density of sintered tungsten-base alloys has been investigated. Alloy powders were compacted under a hydrostatic pressure of 1100 atm, sintered at 235—1265C in a hydrogen atmosphere for 1 hr and at 1785 ± 10K for 2 hr, and furnace cooled. Increasing the nickel content to 0.4% increased the density of sintered compacts from 79% for unalloyed tungsten to 91.1%. Further experiments were made with W-0.4% Ni base alloys. Additions of up to 3% ZrO_2 increased the density of sintered W-0.4% Ni alloy to 96%. With further increases in the ZrO_2 content, the density gradually decreased, and at a ZrO_2 content of 10% became equal to the density of the initial W-0.4% Ni alloy. Small copper additions (up to 3%) slightly increased the density of W-0.4% Ni-10% ZrO_2 alloys, but larger additions decreased it below that of the initial

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ACC NR: AP6036898

W-0.4% Ni-10% ZrO_2 alloy. The obtained results showed that W-Ni-Cu-ZrO_2 alloys sintered at 1785K in hydrogen have high density and can be used as structural materials. Orig. art. has: 4 figures. [MS]

SUB CODE: 11, 13/ SUBM DATE: 28Oct65/ ORIG REF: 003/ ATD PRESS: 5109

Card 2/2

SHAFIT, Ye.M., kandidat technicheskikh nauk (Dnepropetrovsk)

Measuring the speed of cars rolling down the hump by remote control. Zhel.dor.transp. 38 no.10:76-77 O '56. (MLRA 9:11)
(Railroads--Hump yards) (Remote control)

[illegible], N.N., prof. [illegible]; [illegible], A.I., kandidat tekhnicheskikh nauk; [illegible], I.I., kandidat tekhnicheskikh nauk; [illegible], L.I., kandidat tekhnicheskikh nauk; [illegible], A.I., kandidat tekhnicheskikh nauk; [illegible], Ye.I., kandidat tekhnicheskikh nauk; [illegible], Yu.F., kandidat tekhnicheskikh nauk; [illegible], B.I., kandidat tekhnicheskikh nauk.

Another volume of the Engineering Reference Encyclopedia on problems of operating railroads. Reviewed by N.P. Shchenko and others. Vest.vost.transp. 37 no.7:92-95 Jl '57. (MLRA 10:9)
(Railroads--Management)

YUSHCHENKO, N.R., doktor tekhn. nauk prof.; MIKHNEVICH, L.N., kand. tekhn. nauk dots.; SHAFIT, Ye.M., kand. tekhn. nauk dots.

Some aspects of organization in moving large earth masses by rail. Trudy DIIT no.28:5-33 '59. (MIRA 13:2)

1.Nachal'nik Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Yushchenko).
(Railroads--Earthworks) (Earth work)

SHAFIT, Ye.M., kand. tekhn. nauk dots.

Graphic method for the construction of speed curves for the downhill run of cars from the hump. Trudy DIIT no.28:136-149 '59. (MIRA 13:2)

(Railroads--Hump yards)

YUSHCHENKO, N.R., prof. doktor tekhn. nauk (Dnepropetrovsk);
SHAFIT, Ye.M., kand. tekhn. nauk (Dnepropetrovsk)

Sorting of six-axle cars in hump yards and the braking characteristics of retarders. Zhel. dor. transp. 45 no.5: 78-81 My '63. (MIRA 16:10)

TIKHOMIROV, I.G., prof., doktor tekhn.nauk (Gomel'); LITVINOVSKIY, G.A. (Gomel'); SHAFIT, Ye.M., kand.tekhn.nauk (Dnepropetrovsk); MIKHNEVICH, L.N., kand.tekhn.nauk (Dnepropetrovsk)

New textbook on railroad stations and junctions. Reviewed by I.G.Tikhomirov and others. Zhel.dor.transp. 45 no.8:93-95 Ag '63. (MIRA 16:9)

1. Glavnyy inzh. Kiyevgiprotransa, Gomel' (for Litvinovskiy). (Railroads--Stations)

YUSHCHENKO, N.R., doktor tekhn.nauk, prof.; SHAFIT, Ye.M., kand.tekhn.nauk, dotsent

Methodology for conducting experimental observations in the study of the conditions of the rolling down of cars from humps (using telemetric apparatus). Trudy DIIT no.41:5-29 '62. (MIRA 17:2)

SHAFIT, Ye.M., kand.tekhn.nauk, dotsent

Accuracy of the measurements of the speed of the rolling down of car cuts from the classification humps by means of the TM-56 telemetric apparatus. Trudy DIIT no.41:30-52 '62. (MIRA 17:2)

SHAFIT, YU. YA.

Jun 48

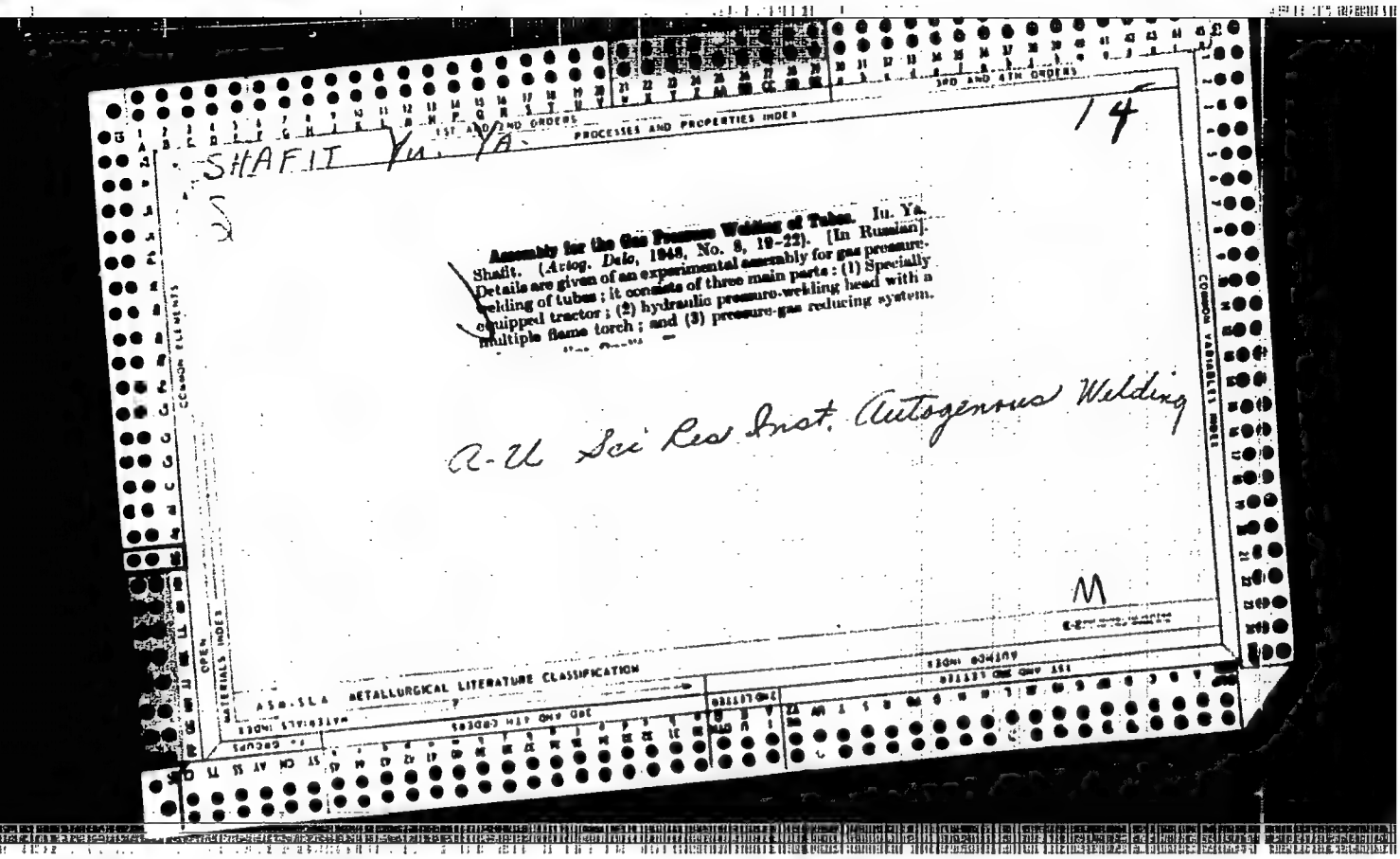
USSR/Engineering
Cutting Torches
Cutting, Gas

"New Machines and Equipment for Gas-Flame Working of Metals," V. S. Chernyak, Engr, Yu. Ya. Shafit, Engr, 4 3/4 pp

"Avtogennoye Delo" No 6 p 25-27, 1948

Treats subject under following (1) semiautomatics and automatics for oxygen cutting, (2) appliances for "minor mechanization" of gas-cutting processes, (3) equipment and apparatus for surface treatment, (4) equipment for gas-press welding and (5) high-pressure acetylene generators.

PA 19/49T37



SHAFIT Yu. Ya.

14

Assembly for the Gas Pressure Welding of Tubes. Iu. Ya. Shafit. (*Avtog. Delo*, 1948, No. 8, 19–22). [In Russian]. Details are given of an experimental assembly for gas pressure-welding of tubes; it consists of three main parts: (1) Specially equipped tractor; (2) hydraulic pressure-welding head with a multiple flame torch; and (3) pressure-gas reducing system.

A-U Sci Res Inst. Autogenous Welding

M

SHAFIT Yu. Ya.

TSEGEL'SKIY, V.L.; ZHDANOV, V.A.; SHAFIT, Yu.Ya., inzhener, redaktor; RYBALKA, P.G., inzhener, retsenzent.

[Electric welding] Elektrosvarochnoe delo. Izd. 4. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 375 p. (MLRA 7:7)
(Electric welding)

SHAFIYEV, A. I. 184T20

USSR/Chemistry - Metal Hydrides 21 Jun 51

"Kinetics of the Reaction of Calcium With Hydrogen," V. A. Shushunov, A. I. Shafiyev, Sci Res Inst Chem, Gor'kiy State Un. (Ceased)

"Dok Ak Nauk SSSR" Vol LXXVIII, No 6, pp 1181-1184

In previous phases of the investigation, which deals with topochem reactions of metals with gases and of alloys with alkyl halide vapors, existence of zone in which temp dependence of reaction rate does not follow Arrhenius' law has been established. When layer of CaH_2 reaches

184T20

USSR/Chemistry - Metal Hydrides (Contd) 21 Jun 51

certain thickness in reaction of Ca with H_2, diffusion of H_2 through the layer becomes slower than chem conversion at Ca surface. At higher temps, rate of reaction is again detd by kinetics of chem process. Arrhenius' law is applicable in entire range investigated, up to decompn t-re of CaH_2.

184T20

SHAFIYEV, A.I.

G

Chem

USSR.

Kinetics of the formation of calcium hydride. V. A. Shushunov and A. I. Shafiev (State Univ., Gorki). *Zhur. Fiz. Khim.* 26, 672-9(1952); cf. *C.A.* 45, 5009f, 8331h.—In order to study the range of temp. for which there is a neg. temp. coeff. for the rate of the heterogeneous chem. process, the reaction of Ca with H was studied at 120–530°. This reaction, forming calcium hydride, CaH_2, occurs without autocatalysis, and its rate is wholly dependent on the rate of diffusion of H through the hydride layer. The detn. of the temp. dependence for the reaction rate showed that the temp. coeff. was significantly less for the chem. stage of the process than for the diffusion stage. The activation energy of the chem. process was 5500 cal./mole and for the diffusion process it was 15,000 cal./mole.

J. Rovtar Leach

SHAFIYEV, A.I.

AUTHORS: Korshunov, I. A., Shafiyev, A. I. 78-1-17/43

TITLE: The Chemical State of Radiophosphorus-32 Formed in Some Targets With Neutron Irradiation (Khimicheskoye sostoyaniye radiofosfora-32, poluchayushchegosya v nekotorykh mishenyakh pri obluchenii ikh neytronami).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 95-99 (USSR).

ABSTRACT: The above questions concerning radio-phosphorus in the moment of its formation are neglected in spite of a thorough investigation of the nuclear reactions of its production. The choice of the method of isolation of any isotope whatever, especially without carrier, depends, however, on the chemical state of the isotope in the target. The chemical state of the developing radiophosphorus for a number of targets with various chemical and physical properties: CCl_4, S_2Cl_2, $CHCl_3$, Na_2SO_4, Na_2SO_3, $Na_2S_2O_3$, KCNS, NH_4Cl, $MgCl_2$, $CaCl_2$, etc. was investigated in the present report. The separation of phosphorus in phosphate- and phosphite-ions was carried out according to the methodics of reference 14. The chemical state of phosphorus-32 in CCl_4. The authors pro-

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ved that the whole radiophosphorus from CCl_4 cannot be obtained by ordinary extraction. This was only achieved by re-cooling in the presence of elementary bromine or chlorine under an HNO_3-solution or of water. Table 1 shows the ratio between the valence forms of radiophosphorus and the percentage of the non-extractible part according to the nature of the extrahent. During the formation of radiophosphorus it is adsorbed on the walls of the flask which contains CCl_4. The quantity adsorbed depends on the water-content in the target (table 2). It hence results that radiophosphorus with large quantities of water (40 ml) especially with acidifying and agitating passes almost completely over to the water layer. With an higher water-content of CCl_4 the adsorption of the formed radiophosphorus increases substantially. The chemical state of the radiophosphorus formed in CCl_4 is influenced by water, gaseous ammonia, chlorine and acetone, if they are added prior to irradiation. The oxygen dissolved in CCl_4 does not have this effect. The duration of the irradiation favors the formation of the pentavalent radiophosphorus (table 5). Table 3 shows that the water-content of the substance of the target favors the stabilization of the radiophosphorus in trivalent state. The formed "hot" radiophosphorus atom can consequent-

ly form various chemical compounds after the loss of a substantial part of its kinetic energy. If free chlorine is present in the target, considerable quantities of PCl_5 are formed. Part of the phosphorus atoms remains in elementary state or forms non-extractable compounds by means of water. The valency-state of radiophosphorus is changed during its extraction. The chemical state of phosphorus-32 in other targets. Radiophosphorus forms $PSCl_2$ in a target of S_2Cl_2 with and without the addition of carriers. The chemical state of radiophosphorus in targets of anorganic salts containing both sulfur and chlorine depends on the oxidative-reductive properties of the respective compound, on the presence of the crystallization water and the thermal treatment prior to and after irradiation. Table 6 contains test-results on the dependence of the valency state of the forming radiophosphorus on the chemical nature of the substance of the target, of the crystallization-water contained therein and of the mentioned treatment. Radiophosphorus forms, together with higher oxidized substances, less oxidized compounds - in compounds with reducing properties. Water favors the formation of higher oxidized compounds. The thermal treatment of the target after its irradiation with neutrons

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causes the transition of radiophosphorus in compounds of higher valency. The ultra-violet irradiation causes the formation of pentavalent phosphorus in CCl_4. Irradiations with both gamma and neutron rays favor in both kinds of targets the formation of radiophosphorus of higher valencies.
There are 6 tables, and 14 references, 9 of which are Slavic.

ASSOCIATION: Gor'kiy State University im. N. I. Lobachevskiy, Chair for Radiochemistry (Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo, kafedra radiokhimii).

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SHAFIYEV, A. I.

AUTHORS: Korshunov, I. A., Shafiyev, A. I. 78-1-18/43

TITLE: The Methods of Isolation of Radiophosphorus From Chlorine- and Sulfur Containing Targets (Metody vydeleniya radiofosfora iz misheney soderzhashchikh khlor i seru).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 100-103 (USSR).

ABSTRACT: The problems of the isolation of radiophosphorus without addition of carriers from targets, besides carbon disulfide, are neglected. Methods of isolation of radiophosphorus without carrier from CCl_4, $CHCl_3$, S_2Cl_2, NH_4Cl, $MgCl_2$, $CaCl_2$, Na_2SO_4, $Na_2S_2O_3$, KCNS and other substances, as targets, were investigated in the present report. The isolation by means of an electric field (reference 15) can be applied with the CS_2-target, but not with the CCl_4-target. The authors proved that the perfection of the isolation from CCl_4 by means of this method depends on the water content and that it increases from 25 to 50% by using acqueous CCl_4. The saturation of the CCl_4 with elementary sulfur increases the precipitation of

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radiophosphorus on the electrodes up to 75°/o. The study of the methods of adsorption of the extraction of the radiophosphorus from CCl_4 (table 1) show that silicagel is the best adsorbent. Further, the adsorption of radiophosphorus on the walls of the irradiation flask can be used for extraction. This is achieved best, if, prior to irradiation, 0,6 to 0,8 ml water per 1,0 liter CCl_4 are added. 8o to 9o°/o of radiophosphorus are adsorbed on the walls by agitating such a target from time to time. Radiophosphorus can be extracted in a still simpler way by agitating the target during the irradiation and by adding 1o to 2o ml water per 1 liter CCl_4 (approximately 9o°/o radio-phosphorus). The distilling of CCl_4 under a water layer, especially when being acidified with HNO_3 and with a small addition of chlorine makes an 1oo°/o isolation of the radiophosphorus possible. It can be obtained from chloroform in a similar way. Radiophosphorus is obtained from sulfur monochloride best by means of passing the target through a column of air-dried silicagel. Radiophosphorus is desorbed from this by means of water acidified up to 95°/o. The method of boiling with

acidified water can be applied for the isolation of radiophosphorus from sulfur irradiated with neutrons, dissolved in chloroform and toluene. From salt solutions which served as targets, radiophosphorus is isolated best by adsorption on aluminum- or ferric hydroxide on difficulty soluble deposits of $BaSO_4$ and $BaCrO_4$, as well as of aluminum oxide.
There are 4 tables, and 21 references, 13 of which are Slavic.

ASSOCIATION: Gor'kiy State University im. N.I. Lobachevskiy, Chair for Radiochemistry (Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo, Kafedra radiokhimii).

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(Radiochemistry)